

## A planning and commissioning guide for 8000, 8001 and 8087 complete with control unit Assa 8101A.

### SYSTEM DESCRIPTION

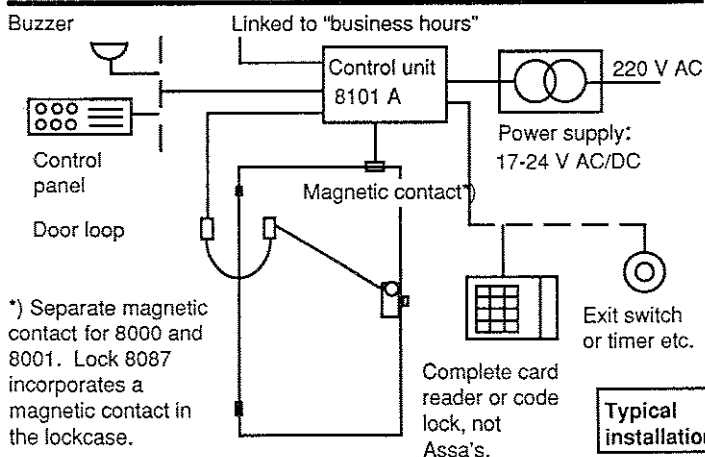
Assa control unit 8101A incorporates the control functions for the motorlock, including locking, un-locking and daylock functions. The control unit monitors the status of the door and has outputs for information such as alarms which can be linked to, for example, an observation panel or used for the control of events when used in connection with automatic doors.

Input for day blocking offers control over business hours. When the jumper is closed the motorlock will not be active during business hours. At the end of business hours and, for example, when the lights are switched off the lock will then become active.

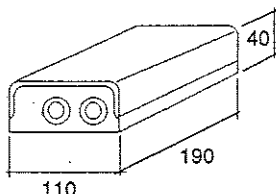
The reverse can be achieved from the system, for example, to activate the lock during business hours.

An impulse for opening or locking can be accepted by the control unit Assa 8101A through a relay contact from card readers, code locks, timers, keypads, control computers etc. other than those supplied by Assa.

The status of the door is monitored by a magnetic contact that is linked to the control unit.



### DESCRIPTION OF CONTROL UNIT



Control unit Assa 8101A is a control unit for one lock.

Environmental requirements:  
Must be fitted indoors and safe from unauthorised tampering or sabotage.  
Temperature: +0 °C to +40 °C.  
Relative Humidity: 20% - 90%, non-condensing.

The control unit is delivered already assembled in a plastic case as shown in the diagram. Two cable inlets are situated on one of the short sides of the box.

#### Features:

- Motor lock control for locks Assa 8000, 8001 and 8087. Controls the bolt in the lockcase from/to the locked/unlocked fully extended position.
- Detects door status, open or closed via magnetic contact. (separate for 8000 and 8001).
- Day locking for example electric strike or solenoid handle lock.
- Indicates status and events.
  - Closed door
  - Locked = bolt thrown
  - Unlocked = bolt blocked in lockcase.

- Activates alarm, 60 seconds PRE-ALARM, thereafter permanent ALARM:
- If the deadbolt does not reach its full extension within 5 seconds during locking.
- If the deadbolt does not fully retract within 5 seconds during unlocking.
- If the magnetic contact indicates open when the door is locked.
- Activates permanent ALARM:
- If key or thumbturn is used when opening motor lock.

Alarms is given as a sum alarm meaning all alarms are from the same output. Optional (-) with alarm or (-) without alarm. Optional re-setting of alarm is performed following an approved event when everything is OK.

- Automatic locking of lock after unlocking without the door being opened. Opening time can be set between 5 and 65 seconds. If the door is opened within the set time period the time delay ceases.

- Signal for un-locking is connected to the same input regardless of whether it is an impulse from the exit switch or a time delayed signal.

- It is possible to day block the lock for business hours using a timer or similar. The motor lock stays unlocked after the first opening impulse and will lock automatically when the locking signal is received.

- Repeated locking attempts. If the bolt cannot fully extend, the system will repeatedly try to reach its full extension. This will be repeated approx. every 5th second. The rest between each try will protect the motor from burning out. If the bolt has not reached its full extension within 5 seconds after the first try the pre-alarm is activated and after 60 seconds the full alarm.

When jammed under opening:

- If the bolt has not left its extended position, the lock remains locked. Alarm activates.
- If the bolt has left the locked position and jams, it will return to locked position. Alarm activates.

If the bolt has jammed during opening, a new opening impulse must be given via exit switch or similar, and the alarm will then cease providing a new opening or closing action is performed.

Outputs for alarm and log through open collector, max. 500 mA/port, maximum yet 1 A on the 12 V output.

DIP switches for a selection of compatible products and functions.

### POWER SUPPLY

The system works within a voltage range 17-24 V AC/DC.

Transformer with separate primary and secondary coils should be used. Maximum 24V + 10% AC/DC. Alternatively with 12V DC from battery back up unit.

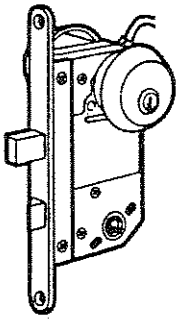
#### Power consumption at 24 V DC:

8101 A + 8000/8001: In rest approx. 100mA.  
Maximum load approx. 1,5 A.

8101 A + 8087: In rest approx. 100 mA.  
Maximum load approx. 1,5 A.

Connection of power supply via terminal strip.

## PRODUCT DESCRIPTION OF LOCKCASES



**8000:**  
Sashlock in Assa's modular series, symmetrical (SS 817383) or for older locks, asymmetrical (SS 817381) standard mortice.

The lockcase has both dead and latchbolts. The deadbolt is driven by an integral motor, key or thumbturn (turn cylinder).

The latchbolt is reversible and is operated by lever handle.

The lockcase is installed with either Assa round or oval cylinders, single or double, together with handle and strike. Specify separately. Connect to control unit 8101A.

**8001:**  
Deadlock, as above but with deadbolt only.



**8087:**  
Lockcase in the Assa series of narrow profile locks, for doors with narrow frames. The lockcase is provided with a hookbolt, motor driven or mechanically operated by key. The lockcase can be fitted with Assa's oval, double or single cylinders and accessories or emergency accessories and strike 880032. Specify separately. Connect to control unit 8101A.

**Before connecting always check that lockcase and strike operate correctly, also that the lock can be unlocked and locked using the key and thumbturn!**

### For all lockcases:

**Application:** Faceplate, lockcase, hardened bolt and the inner parts of zinc plated (57) steel.

**Environment:** Temperature range: -15° - +40°C  
Relative humidity: 20% - 90% , non-condensing.

**Side pressure:** Maximum 10N.

**Interacting products for electric system:** Control unit: Assa 8101A  
Assa connecting cable between lockcase and control unit.

## PROJECT PLANNING

**Project:**

**Installer:**

**Commenced:**

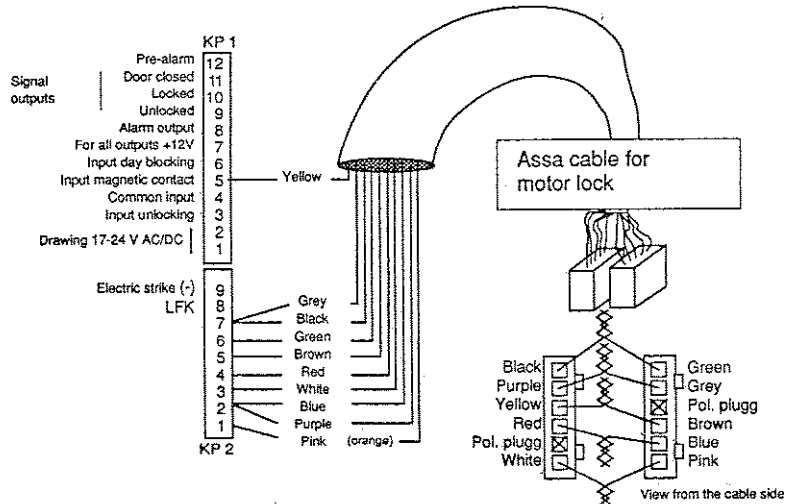
**completed:**

**Commissioning agent:**

**Commissioning date:**

Wiring diagram	Symbols	Product	Make, model	Quantity	Comments
		Lockcase			
		Door loop			
		Connection cable	Assa 880044		
		Control unit	Assa 8101 A		
		Cable			
		Transformer			
		Cable (220 V)			
		Cable			
		Magnetic contact			
		Cable			
		Exit button			
		Cable			
		Card reader or code lock. External system			
		Cable			
		Timer			
		Cable			
		Day/Night-switch			
		Cable			
		Alarm			

## CONNECTION SCHEDULE FOR CABLES



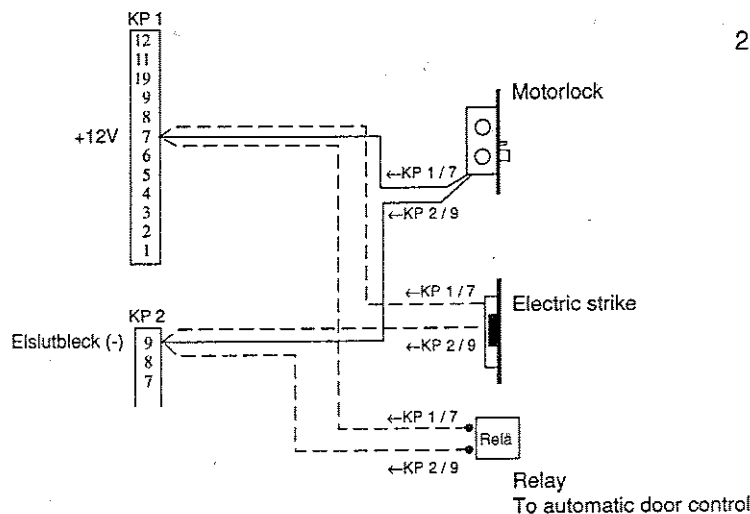
1. Connect the motorlock to the control unit using standard connection cable. Fit the connector to the lock and follow diagram (KP 1 and KP 2) for connection to the control unit.

\*The pink strands might be orange in older cables.

### Colours for strands in older cables

Black (Brown)	"	Black
Black (Green)	"	Red
Black (Blue)	"	White
Black (Orange)	"	Purple
Black (Grey)	"	

## CONNECTION OF ELECTRICAL DAY LOCKING AND CONTROL OF AUTOMATIC DOOR OPERATION.



### 2 DAY LOCKING

Connect the solenoid handle lock or the electric strike.

### AUTOMATIC DOOR CONTROL

Connect 12V relay for automatic door control

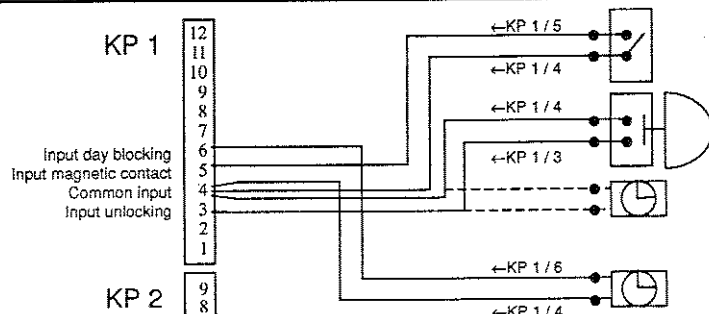
### FUNCTION

At authorised opening the output KP2/9 will be activated when the motor lock is unlocked. The output de-activated when the door is opened.

### NOTE!

Diodes should be used over connected coils.

## CONNECTION OF MAGNETIC CONTACT, EXIT SWITCH AND DAY BLOCKING



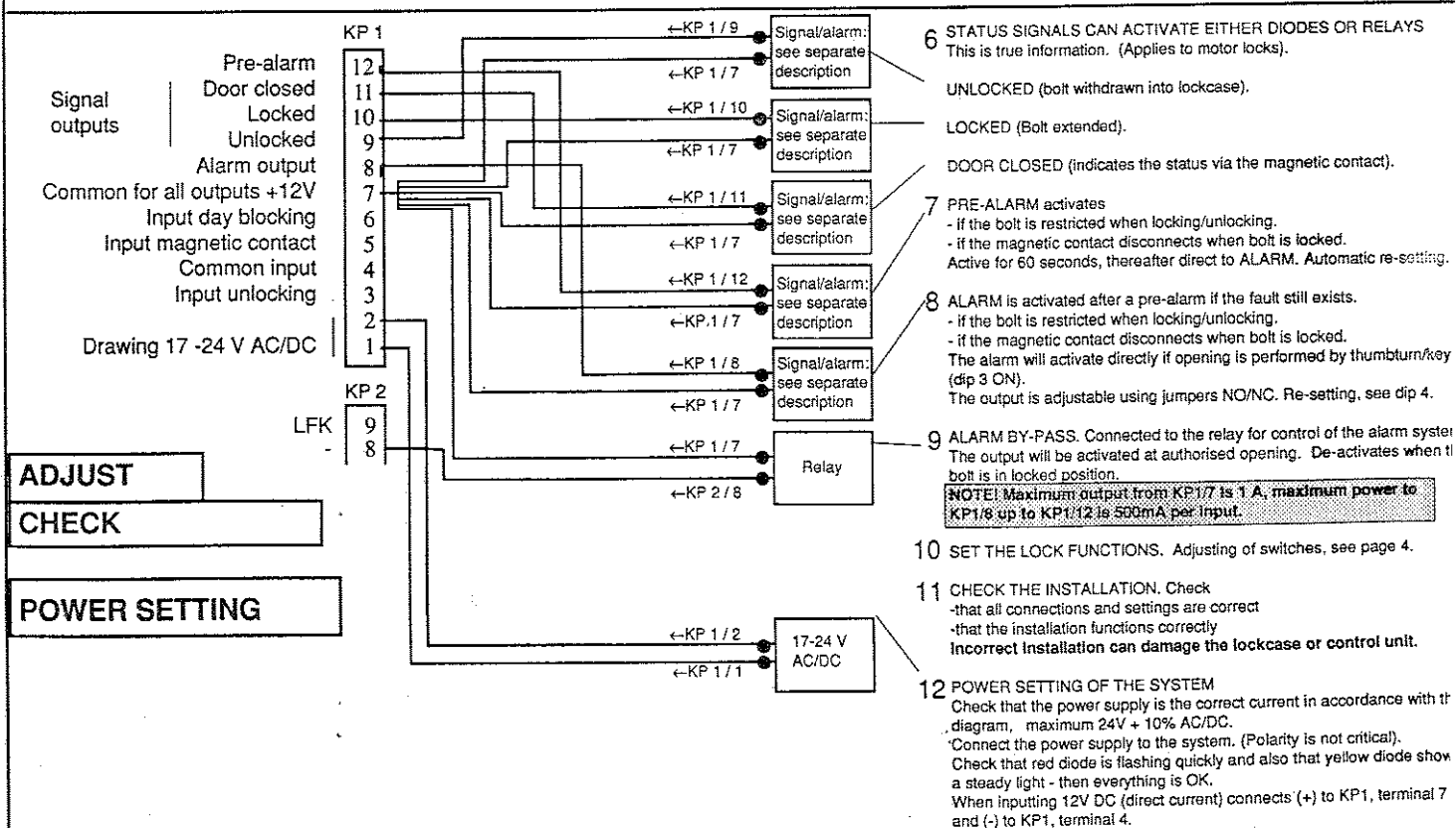
3 MAGNETIC CONTACT is used for locks 8000 and 8001. Voltage free contact at closed door.  
NOTE! Lock 8087 has a built in magnetic contact with a corresponding magnet in the strike.

4 OPENING EXIT BUTTON (momentary, voltage free switch), relay etc. Automatic locking.

TIMER, CODE LOCK OR CARD READER (not ASSA) etc. for day opening. (Bi-stable function). When ON (voltage free switch) the lock will open, when OFF the lock will then be locked. (This applies to motor lock and day locks).

5 DAY BLOCKING via a relay for business hours, timer or circuit breaker. When the timer activates ON (voltage free switch) nothing will happen, lock will open at the first authorised opening impulse and will then remain in its opening position until the timer switches to OFF, locking will then be performed. (Applies to motor locks).

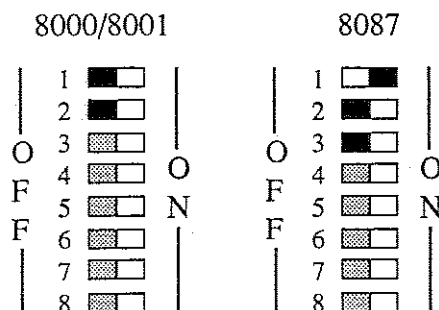
## CONNECTION OF SIGNALS AND ALARMS



## SETTING of switches

Before power is connected to the control unit the function switches must be set for each lock type. This is important as the locks are different.

**Wrong settings can damage the lockcase!**



1 OFF at lockcase 8000/8001, ON at lockcase 8087

2 Should always be OFF

3 ON = Alarm activated when using the thumbturn  
OFF = Alarm not activated when using thumbturn

4 ON = Alarm re-sets with authorised electronic opening  
OFF = Automatic alarm re-setting when everything is OK.

5 ON = 8 sec

6 ON = 12 sec

7 ON = 20 sec

8 ON = 36 sec

DIP 5-8 = setting of time for re-locking after the opening signal is given and door has not been opened. If the door has been opened the lock will then re-lock directly the door is closed. The value of the switches will be added together if several switches are set to ON. When all switches are set to OFF the shortest time applies, approx. 4 seconds.

Black = selected setting.  
When rocking commutator is depressed = selected setting  
OFF = Open  
Grey = optional switches. The basic setting is illustrated.

Alarm output KP1/8

Jumpers

No Nc

● — ● Circuit disconnects at alarm

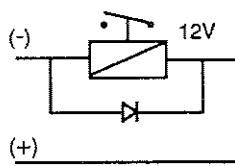
No Nc

● — ● Circuit connects at alarm

## CONNECTIONS: Types of signals:

With relay:

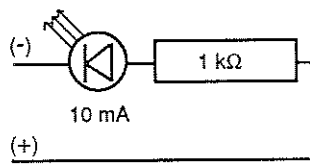
KP1 / 8 - 12



KP1 / 7

With LED

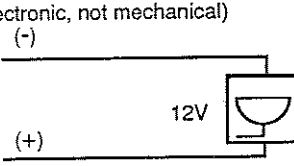
KP1 / 8 - 12



KP1 / 7

With buzzer:(electronic, not mechanical)

KP1 / 8 - 12



KP1 / 7

## TROUBLE-SHOOTING GUIDE

Problem	Possible reasons	Suggested action	Problem	Possible reasons	Suggested action	Problem	Possible reasons	Suggested action
THE MOTOR LOCK DOES NOT OPEN	Excessive frame pressure.	Adjust the door.	THE MOTOR LOCK DOES NOT LOCK	The door does not fully close.	Adjust the door	THE DEADBOLT DOES NOT REACH ITS FULL EXTENSION. THE MOTOR IS OPERATING EVERY 5 SECONDS.	Excessive frame pressure.	Adjust the door.
	No opening signal.	Check cables and connections.		Open Door signal remains active.	Check cables and contacts.		Obstruction in the striking plate.	Check the striking plate.
	Thumbturn is in wrong position.	Check thumbturn and adapter.		Connection cable is damaged.	Change the cable.		The door does not fully close.	Adjust the door or door closer.
	Connection cable is damaged.	Change the cable.		Thumbturn is in wrong position.	Check thumbturn and adapter.		Incorrect voltage.	Check the transformer/ PSU
	DIP switches are set incorrectly.	Check the switches.		DIP switches are set incorrectly.	Check the switches.		Lockcase and striking plate are mis-aligned.	Adjust fitting.
	Lockcase and striking plate are mis-aligned.	Adjust the fitting.		Magnetic door contact is mis-aligned	Check the magnetic door contact.			
				Lockcase and striking plate are mis-aligned.	Check the striking plate.			

**NOTE! ALWAYS DISCONNECT THE POWER BEFORE CONNECTING OR DISCONNECTING ANY ITEMS ON THE SYSTEM (INCLUDING THE CABLE TO THE LOCKCASE).**